



# Business group affiliation and SMEs' international sales intensity and diversification: A multi-country study

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## ABSTRACT

This study examines the impact of business group (BG) affiliation on international sales intensity and diversification in small and medium-sized enterprises (SMEs) by using a multi-country sample of over 13,000 SMEs from 34 European countries. Drawing on the revised Uppsala internationalization model and network theory, this paper suggests that the effects of BG affiliation on international sales intensity and diversification depend on the geographical dispersion of the BG network ties, the size and the age of the firm, and the institutional support in the home country. Thus, we find that interfirm networks in the form of BGs are a double-edged sword that can have both favorable and unfavorable consequences for international sales, depending on the geographical dispersion of the BG's ties. In addition, the results reveal that BG affiliation is more beneficial for smaller SMEs and SMEs in countries with lower institutional support that are more dependent on the network resources embedded within BG networks.

## 1. Introduction

Are business groups (BGs) – defined as a collection of legally independent firms bound together by formal and informal ties - to be considered heroes or villains for small and medium-sized enterprises (SMEs) seeking to expand their business abroad? The answer to this important question remains veiled, as literature has raised conflicting perspectives on the impact of BG affiliation on firms' internationalization (Aguilera, Crespi-Cladera, Infantes, & Pascual-Fuster, 2020). In this study, we shed further light on this pressing issue by examining the impact of BG affiliation on SMEs' international sales intensity and diversification. Furthermore, this investigation highlights the role that BGs play in the internationalization of SMEs by providing a multi-country evidence of potential interactions, such as institutional, firm, and network characteristics that may support and boost SMEs'

international sales.

Internationalization has been successfully linked with several positive outcomes for SMEs, including improved performance and survival prospects (Lu & Beamish, 2001; Puig, González-Loureiro, & Ghauri, 2014). A large body of literature has, however, now acknowledged that SMEs face several challenges and size-related barriers in their pursuit of international growth (Dabić *et al.* 2020). SMEs often lack the resources to internationalize (Knight & Kim, 2009); for example, a lack of foreign market knowledge and experience (Leonidou, 2004; Vlačić, González Loureiro, & Eduardsen, 2020) can restrict their ability to recognize and exploit opportunities in foreign markets (Bagheri, Mitchelmore, Bamiatzi, & Nikolopoulos, 2019). To overcome these challenges and compensate for such constraints, SMEs often rely on alternative means for finding, accessing, and acquiring the resources they need for internationalization (Hennart, Majocchi, & Forlani, 2019). To date, studies

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have suggested that SMEs can handle a lack of tangible and intangible resources through interfirm networks, such as BGs. Scholars have recognized BGs as enhancers of organizational performance through the effective distribution of firm-specific resources across all group members (Dau, Morck, & Yeung, 2021; Yaprak & Karademir, 2010) and their capability to act as boundary-spanners (Elango, 2009). Additionally, BGs can act as substitutes for market-supporting institutions and help firms overcome institutional voids and imperfections (Iona, Leonida, & Navarra, 2013). Thus, BGs can be used to build capabilities and acquire necessary resources, which is in line with the network view of the firm.

Despite a growing number of studies focusing on BGs, important gaps remain in our knowledge of this phenomenon (Aguilera et al., 2020). Accordingly, research on the role of BG affiliation in firm internationalization has offered varying conclusions and generated a so-called 'confusion gap' (Sandberg & Alvesson, 2010). For example, Singh (2009), Singh and Gaur (2013) and Bamiatzi, Cavusgil, Jabbour, and Sinkovics (2014) note that BG-affiliated firms are more likely to internationalize and perform better in international markets compared to unaffiliated firms, while several other studies either found the opposite to be true (Carney, Gedajlovic, Heugens, Van Essen, & Van Oosterhout, 2011; Chittoor, Aulakh, & Ray, 2019; Gaur & Delios, 2015; Tan & Meyer, 2010) or that BG affiliation has no impact on firm internationalization (Cerrato & Piva, 2012; Nam, Liu, Lioliou, & Jeong, 2018). Hence, these inconclusive findings have made scholars recognize that BG affiliation may have both advantages and disadvantages, depending on the specific circumstances and the nature of the BG (Gaur & Delios, 2015). However, previous studies have failed to develop a deeper understanding of the contingency and boundary conditions that influence the consequences of BG affiliation for firm internationalization. Most studies to date have considered the direct effects of BG affiliation on firm internationalization, which has proven to be incapable of fully capturing the complexity of the relationship. Therefore, this study adopts a holistic approach and acknowledges the necessity for further research on the moderating effects of potential institutional, firm, and network characteristics.

We address this research gap by considering when and under which circumstances BG affiliation facilitates international sales intensity and diversification. Specifically, this study aims to answer two research questions: (1) Does BG affiliation enhance international sales intensity and diversification in SMEs and is the impact stronger for SMEs affiliated with international or domestic BGs? (2) To what extent is the relationship between BG affiliation and the international sales intensity and diversification moderated by firm size, age, and home-country institutional support? It is our conviction that it is important to address these research questions to better understand the consequences of BG affiliation, as BGs are a prevalent and growing organizational form in many emerging and developed countries (Belenzon, Berkovitz, & Rios, 2013; Yiu, Bruton, & Lu, 2005). Hence, it is important that we better understand the consequences of such organizational form for individual firms performance, including when BGs are likely to enable/constrain firm internationalization and what generates a positive BG-internationalization relationship in different contexts. Doing so will also help international business research move forward, by providing a deeper understanding of the consequences of BG affiliation, including the mechanisms explaining these, and encouraging future international business research to focus more on explaining the differential impact of BG affiliation on firm internationalization.

We hypothesize that the impact of BG affiliation on the intensity and diversification of firms' international sales depends on the geographical dispersion of the BG's network ties. More specifically, we hypothesize that BG affiliation only facilitates internationalization when BG networks and network ties operate internationally, as international BG networks are more likely to expose SMEs to international opportunities and provide access to necessary resources (e.g., international market information). Furthermore, we expect that BG affiliation is less beneficial for resource-endowed firms and firms in countries where

institutions provide access to resources needed for internationalization (e.g., financial, human, and social capital). Thus, we hypothesize that the impact of BG affiliation on international sales intensity and diversification is stronger in smaller and younger firms in countries with lower institutional support, as these firms are likely to be more dependent on relational resources generated through BG network ties.

This paper aims to contribute to the international business literature on SME internationalization and BG affiliation in three ways. First, the study provides a contingency perspective by exploring three specific types of contingencies: home-country environment, BG characteristics, and the organizational characteristics of the firm. The adoption of a contingency perspective enables us to detect moderators in the relationship between BG and both international sales and diversity, which can explain the mixed and contradictory findings in previous studies. Thus, this study disentangles when SMEs can take advantage of BG networks to access the resources needed for internationalization and clarify the potential moderators explaining some of the opposite findings regarding BG affiliation and firm internationalization. Second, the study extends extant research on BGs and internationalization to the context of developed economies, since, to date, the primary focus has been on emerging economies (Yi, Wang, & Kafourous, 2013; Yiu, Bruton, & Lu, 2005) and how BGs can help affiliated firms overcome institutional shortcomings. However, with more than 26,000 BGs in Western European countries (Belenzon et al., 2013), the question of whether firms in more institutionally developed economies can also benefit from BGs deserves greater scholarly attention. Third, the study examines the implications of BG affiliation on SMEs' international sales intensity and diversification that is an issue to which scholars have so far given little attention as previous research has primarily focused on the implications of BG affiliation on foreign direct investment by large companies (Tajeddin & Carney, 2019). In addition, the study contributes to the literature and theory development associated with the impact of networks on internationalization by using a multi-country study to examine how different contextual factors at the organizational, industrial, and national levels determine the impact of networks (e.g., BGs) on the internationalization of SMEs (Sedziniauskienė, Sekliuckienė, & Zuchella, 2019). Furthermore, our study contributes by addressing a gap in the literature regarding the role of different network ties on the internationalization of SMEs, including the diversity of network tie characteristics (Andersson & Sundermeier, 2019).

In the following sections of the paper, we first review the role of networks in SMEs' internationalization and introduce the revised Uppsala internationalization process (IP) model. There we show that some networks empower international expansion more than others. We also review how BGs are conceptualized and review the reasons given in the literature for the existence of BGs. We then hypothesize that the impact of BG affiliation on firm internationalization is contingent on firm size and age, home country institutional support, and the international diversity of BG affiliates within the network. Next, we describe our sample, present our methodology, report our findings, and finally present implications and future research directions.

## 2. Theoretical background

### 2.1. Role of networks in SME internationalization

Internationalization refers to "the degree to which a firm's sales revenue or operations are conducted outside its home country" (Elango & Pattnaik, 2007, p. 542) and is concerned with both the degree of dependence on international sales (i.e., international sales intensity) and the dispersion of international sales across countries (i.e., international sales diversification) (Rubino, Vitolla, & Garzoni, 2019).

To date, several theories have been suggested to explain the internationalization of firms. This study draws upon the revised Uppsala IP model, which theoretically explains the internationalization process of firms (Johanson & Vahlne, 2009), and it is one of the workhorse theories

in internationalization research (Coviello, Kano, & Liesch, 2017). Building upon the foundations presented in the original Uppsala IP model, the revised model explains the firms' internationalization process concerning state and change variables. These variables are co-dependent, with the state variables impacting change variables and vice versa. Specifically, the model assumes that the state of internationalization affects and explains changes in a firm's international commitment by influencing decision-makers' perceptions of opportunities and risks, which shape the change variables in the form of learning and trust-building. This, in turn, builds a firm's knowledge of foreign markets and influences future decisions about the level of international commitment. Hence, the revised Uppsala IP model assumes a dynamic interplay between learning and commitment, suggesting that, as firms learn and gain access to relevant knowledge about foreign markets, they can increase their international sales (i.e., the depth of internationalization) and extend their sales to a larger number of foreign countries (i.e., international diversification).

Moreover, while much of the thoughts related to the Uppsala model recognized the relevance of network ties, only later the inappropriately narrow interpretation of the model has been shown to incorporate an exploration of upper echelons' traits and offer a deeper understanding of the way individuals through their networks contribute to the internationalization of firms (Contractor, Foss, Kundu, & Lahiri, 2019; Hult, Gonzalez-Perez, & Lagerström, 2020). Given that business relationships and networks represent a significant portion of the development of the internationalization process, the incorporation of a micro-perspective offers new lenses in the understanding of the internationalization process (Surdu, Greve, & Benito, 2020; Vlačić, Santos, Silva, & González-Loureiro, 2022). Thus, scholars recognized that managerial ties and personal networks tend to provide valuable support for the internationalization process and assist firms in managing their international operations (Tan & Meyer, 2010).

Next, while the revised Uppsala IP model shares the same basic structure with the original model, the most notable difference between the two is the emphasis placed on networks and their role in explaining firm internationalization. The two core arguments of this theory are that (1) markets are essentially networks of interfirm and social relationships and (2) network relationships provide opportunities for learning and for building trust and commitment, which are considered fundamental enablers of firm internationalization (Johanson & Vahlne, 2009). Thus, while the original model assumes that firms acquire foreign market knowledge from experience in foreign operations, the revised model acknowledges that experiential learning is also accumulated and shared within networks. Therefore, network ties are an important source of the knowledge required to develop and realize internationalization strategies in foreign markets (Aggarwal, Jindal, & Seth, 2019; Zain & Ng, 2006), while a lack of network ties hinders the firm's acquisition of such knowledge (Lindstrand, Melén, & Nordman, 2011). Thus, firm's access to and status in relevant networks determine—to some extent—the available international opportunities and mitigates constraints (Kontinen & Ojala, 2011; Mathews & Zander, 2007).

However, not all networks are equal in terms of their ability to facilitate internationalization. The network's ability to facilitate firm internationalization is determined by its characteristics as some networks empower international expansion more than others. For example, recent research comparing the benefits of different types of networks in relation to gaining resources for firms' internationalization shows that organizational networks are more likely to assist the internationalization process of firms as this type of network provides better access to resources that are beneficial for internationalization compared with personal and intermediary networks (Andersson & Sundermeier, 2019). Others have highlighted the importance of social networks in determining the perceived feasibility and desirability of international opportunities and, thereby, the internationalization process (Nowiński & Rialp, 2016). Thus, two identical firms may exhibit different capacities to sell internationally because of differences in the characteristics of the

network(s) to which they are affiliated and their different positions within these networks.

Musteen, Datta, and Butts (2014) outlined two network characteristics that facilitate international sales: *network diversity* and *relational embeddedness*. Network diversity refers to the heterogeneity of network partners. Concerning firm internationalization, the geographical diversity and dispersion of network partners enable access to international market opportunities (Musteen, Francis, & Datta, 2010) and foreign market knowledge (Ellis, 2011), affecting the amount and diversity of resources (Bembom & Schwens, 2018). In contrast, relational embeddedness is related to the strength of network ties. Accordingly, relational embeddedness and the trust emanating from such close network ties motivate network members to exchange information more openly and frequently (Inkpen & Tsang, 2005), enabling firms to acquire the resources and skills necessary to exploit international opportunities from inside the network (Chandra & Wilkinson, 2017). Thus, we assert that BG networks with high network diversity and relational embeddedness facilitate internationalization.

## 2.2. Business groups as an interfirm network

There is an ongoing discussion about what form of organization should be considered a BG (Aguilera et al., 2020). Granovetter (1995, p. 95) broadly defines BGs as “those collections of firms bound together in some formal and/or informal ways, characterized by an ‘intermediate’ level of binding.” Based on this definition, BG refers to all types of firm networks where firms are bound together by more than short-term strategic alliances, yet not legally consolidated into a single entity. Such definitions have, however, been criticized for being too broad and inclusive (Smångs, 2006). In response, others limit the definition of BG to a diversified network, that is, “a set of legally-separate firms operating in multiple strategically-unrelated activities that are under common ownership and control” (Cuerpo-Cazurra, 2006, p. 421). Similarly, Guillén (2000, p. 362) defines BGs as “groups that (1) are active in a wide variety of industries, (2) operate under somewhat unified entrepreneurial guidance, going beyond alliances among otherwise independent firms, and (3) fall short of constituting a fully integrated organizational structure.” These definitions take diversification across businesses or industries as a defining feature of BGs and add this to Granovetter's definition of BGs given at the beginning of this section. In addition, some scholars focus on family ownership and central administration, defining BGs as “a gathering of formally independent firms under single common administrative and financial control, and are owned and controlled by certain families” (Chang & Hong, 2002, p. 266). Meanwhile, others focus on power and control, referring to BGs as “a set of private sector firms under common control but with different (though possibly overlapping) sets of owners” (Dau et al., 2021, p. 165). Hence, a BG is an interorganizational phenomenon that predominantly concerns relations between corporate actors (Smångs, 2006) and exists within and across national borders (Granovetter, 2005).

Scholars agree that BGs can take on many forms. Yiu, Lu, Bruton, and Hoskisson (2007) propose a typology of BGs where they distinguish between four types: network-type, club-type, holding-type, and multidivisional-type. These different varieties of BGs can be distinguished from each other by their horizontal connectedness and vertical linkages. In network-type BGs, “one firm plays the leadership role by concentrating on one industry while a number of individual firms engage in the partnership as suppliers of technology, intermediate products, and other functions” (Yiu et al., 2007, p. 1566). In these BGs, the leading firm controls affiliated firms through interfirm transactions and resource sharing; however, the social relations and ties between executives of individual firms remain important in coordinating the BG's activities. The club-type BGs are “more tightly linked through a formal president club or brand-named business association” (Yiu et al., 2007, p. 1566). Typical examples of these types of BG are the Japanese keiretsu and financial-industrial groups in Russia. Next, holding-type BGs are

networks where “a holding or parent company, which is controlled by the core owner elite, acts as the corporate headquarters in control of individual group affiliates through investments in others” (Yiu et al., 2007, p. 1566). Finally, multidivisional-type BGs represent interfirm networks where “a parent company and/or core firm acts as the corporate headquarters by investing partially or wholly in the ownership of individual group affiliates that are organized, according to strategic objectives of the parent company or core firms, either vertically in adjacent stages of production from raw materials supply, manufacturing, to distribution.” (Yiu et al., 2007, p. 1567).

In the empirical setting examined for this study, BGs are typically multidivisional-type BGs or holding-type BGs where the economic activities of affiliated firms are controlled and coordinated by a holding or parent company, which is often controlled by a family (Iacobucci & Rosa, 2005; Yiu et al., 2007). Thus, in the European context, BGs are normally “collections of companies linked together through chains of ownership relations arranged in pyramidal or hierarchical fashion” (Smångs, 2006, p. 891). Examples of European BGs include the Wallenberg group in Sweden, the Agnelli group in Italy, and the Mondragon group in Spain (Ararat, Colpan, & Matten, 2018).

There are several reasons for the formation of BGs. In several emerging and transitioning economies, the formation of BGs has been explained by their ability to provide solutions to problems created by market imperfections or institutional voids (Khanna, 2000; Khanna & Rivkin, 2001). However, market failure cannot adequately explain the existence of BGs in developed countries. Consequently, others have explained the existence of BGs through their ability to facilitate the growth of firms, particularly SMEs. For example, BGs allow SMEs to realize, enable, and manage growth by improving their ability to exploit an opportunity using necessary resources without acquiring or possessing them (Lechner & Leyronas, 2009). BGs have also been linked to the outcomes of increased entrepreneurial diversification, in which habitual or portfolio entrepreneurs create BGs to maintain the legal autonomy of different ventures (Iacobucci, 2002). This approach provides entrepreneurs with several benefits, e.g., making it easier to assess the performance of each new venture individually, attracting external capital directly to the new ventures, and isolating existing businesses from the risk of failure of new ventures (Iacobucci & Rosa, 2005). Hence, there are several motivations for the formation and affiliation to BGs.

### 3. Hypotheses development

#### 3.1. Business group affiliation and SME internationalization

So far, scholars have offered inconclusive findings regarding the advantages of BG affiliation for internationalization (Holmes, Hoskisson, Kim, Wan, & Holcomb, 2018). Some scholars argue that BGs provide affiliates with advantages that help improve their international performance and facilitate internationalization, while others dispute this positive view. For example, some suggest that the BG affiliation is a coping mechanism for some of the liabilities SMEs face when going international, such as resource limitations (Elango, 2009), caused by the liabilities of smallness (Majocchi et al., 2005), foreignness (Sethi & Guisinger, 2002), and outsidership (Johanson & Vahlne, 2009). Thus, the BG is seen as a boundary-spanner when addressing a foreign market and an international network. On the contrary, some suggest that BGs may decrease affiliates' competitiveness and export capabilities by causing complacency and reducing incentives to export (Hundley & Jacobson, 1998). Despite the different opinions on the impact of BG affiliation on internationalization, we expect that BG-affiliated SMEs will be better equipped to engage in international sales compared to unaffiliated SMEs.

There are two important reasons to expect a positive relationship between BG affiliation and SMEs' international sales intensity and diversification. First, BGs enable access to financial and human resources, foreign market knowledge, and network connections embedded

within the interfirm network (Lamin, 2013). Thus, affiliated SMEs might tap into this portfolio of heterogeneous resources and use them to reduce some of the challenges associated with liabilities of outsidership, newness, and foreignness (Lavie, 2006; Manikandan & Ramachandran, 2015; Purkayastha, Kumar, & Lu, 2017). Research suggests that BGs often pool the resources of the group's firms, allowing SMEs better access to critical human resources and formal credit, which is often an obstacle for SMEs seeking to engage in and expand their international sales activities (Tajeddin & Carney, 2019). This, in turn, can help add to the SME's stock of knowledge about foreign market opportunities and enable access to the financial resources needed to commit to foreign markets. Hence, rather than learning by experience, affiliated SMEs can tap into and learn from other affiliates' current activities and previous experiences through the BG (Elango, 2009). Furthermore, BG affiliation is likely to provide SMEs with opportunities to gain access to relevant networks in foreign markets and strengthen their position in these (Elango & Pattnaik, 2007). Therefore, BG affiliation can help SMEs by reducing resource-related internationalization barriers and extend the firm's opportunities by allowing affiliated SMEs to tap into the knowledge and connections of other affiliated firms.

Second, BGs can also act as a reputation-enhancing mechanism that helps affiliated SMEs build legitimacy in foreign markets (Khanna & Rivkin, 2001). Reputation is an important signal used by external stakeholders to evaluate a firm. Hence, lack of reputation is likely to hinder internationalization, as important foreign stakeholders (e.g., customers, suppliers, and regulators) are less likely to engage in transactional or relational exchanges with the firm (Connelly, Certo, Ireland, & Reutzel, 2011; Mukherjee, Makarius, & Stevens, 2018). Consequently, SMEs lacking reputation may experience a higher degree of liability of outsidership due to difficulties in becoming insiders in relevant foreign market networks and strengthening their position in these (Park & LiPuma, 2020). Therefore, reputation can be considered a necessary condition for internationalization that may accelerate and facilitate SMEs' international sales intensity and the dispersion of international sales across countries (Crick & Crick, 2014; Lu & Beamish, 2004). Furthermore, existing literature suggests that SMEs can exploit legitimacy spillovers and capitalize on the reputation of other firms by establishing links with these firms (Leppäaho, Chetty, & Dimitratos, 2018; Yli-Renko, Autio, & Sapienza, 2001). For instance, SMEs can exploit and capitalize on the reputation of a BG to shape the perception among foreign stakeholders that it is competent and trustworthy (Mukherjee et al., 2018). Thus, SMEs may overcome the disadvantage of lack of reputation by affiliating themselves with BGs to establish their reputation faster and more widely than would otherwise be possible, and utilize their BG affiliation as a signal to external stakeholders regarding the reliability, competence, and trustworthiness of the firm (Lamin, 2013). Therefore, BG affiliation can be expected to catalyze affiliates' endeavors to internationalize by helping to establish ties with important local stakeholders and thereby increase the resources, knowledge, and social capital provided to the affiliate.

However, not all BGs provide similar benefits, and the benefits provided by BGs are context-dependent (Gaur & Delios, 2015; Gaur & Kumar, 2009). For example, Yiu et al. (2005, p. 185) argue that “the value-creating potential of a business group is largely dependent on how business groups are able to acquire resources and generate capabilities necessary to prosper.” This is supported by previous studies that have failed to identify a consistent relationship between BG affiliation and firm internationalization, with studies suggesting a positive (Purkayastha, Manolova, & Edelman, 2018; Tajeddin & Carney, 2019), negative (Chakrabarti & Mondal, 2017; Gaur & Delios, 2015) and non-significant relationship (Nam et al., 2018).

Building upon the notion that BG network characteristics influence SMEs' international sales, we suggest that the impact of BG affiliation on SMEs' international sales may differ depending on whether the SMEs are part of domestic or international BG. Given that domestic BGs are less likely to assist affiliated firms with relationship building beyond the



domestic market (Prashantham & Birkinshaw, 2015), they may also disincentivize affiliates to export (Hundley & Jacobson, 1998). In contrast, international BGs tend to expose SMEs to international sales opportunities (Granovetter, 1995), provide access to international market information (Musteen et al., 2010), and help overcome the liability of foreignness and outsidership (Elango, 2009). Furthermore, the international orientation of the BG will act as a boundary-spanner to overcome this latter disadvantage, so the affiliation to an international BG vis-à-vis domestic BG will have a stronger impact on both the international sales intensity and the ability of the SME to access new international networks when diversifying the international sales. Hence, we propose that:

**Hypothesis 1a.** : The impact of BG affiliation on SME international sales intensity is stronger for one affiliated with an international BG than for a counterpart affiliated with a domestic BG.

**Hypothesis 1b.** : The impact of BG affiliation on SME international sales diversification is stronger for one affiliated with an international BG than for a counterpart affiliated with a domestic BG.

### 3.2. The moderating effect of firm size on the relationship between BG affiliation and SMEs' international sales

Firm size is amongst the most researched antecedents of firm internationalization (Martineau & Pastoriza, 2016). Firm size has been identified as an important antecedent for international sales propensity (Serra, Pointon, & Abdou, 2012) and international sales intensity (Majocchi, Bacchiocchi, & Mayrhofer, 2005). A long-standing argument in internationalization research is that smaller firms suffer from size disadvantages, with firm size being an indicator of managerial and financial resources (Calof, 1993; Dhanaraj & Beamish, 2003). Accordingly, SMEs often face difficulties attracting managerial talent with international expertise and suffer from the double burden of liability of smallness and liability of foreignness (Kahiya, Dean, & Heyl, 2014). This makes internationalization more challenging for SMEs than for larger firms (Dabić et al., 2020). To cope with those liabilities, SMEs generate relational resources through social ties and/or business relationships (Schweizer, 2013). Network ties are likely to be more productive for firms less able to obtain certain resources for internationalization, which is the case for smaller SMEs (Paul, Parthasarathy, & Gupta, 2017). Hence, drawing on the liability of smallness and its implications, this study suggests that the impact of BG affiliation on SME international sales is greater for smaller than for larger SMEs, as it provides the former with a way to cope with the limited availability of resources. Thus, we propose the following hypotheses:

**Hypothesis 2a.** : The impact of BG affiliation on SME international sales intensity is negatively moderated by its size.

**Hypothesis 2b.** : The impact of BG affiliation on SME international sales diversification is negatively moderated by its size.

### 3.3. The moderating effect of firm's age on the relationship between BG affiliation and SME international sales

In this study, we suggest that BG affiliation has a more positive effect on younger SMEs than older ones. This is partly because export barriers constrain younger SMEs more than older ones as they have less experience and internal knowledge (LiPuma, Newbert, & Doh, 2013), and they must still develop and improve organizational routines in the early stages of the new venture to serve any market (Kahiya, 2018). Therefore, scholars have suggested that younger SMEs seeking to sell abroad experience a higher dependency on external resources and are more reliant upon other external actors to obtain resources, such as international knowledge (Fernhaber & Li, 2010), which network ties can provide. Consequently, younger SMEs are more motivated to use networks to search for international knowledge and market opportunities

(Manolova, Manev, & Gyoshev, 2010). Younger SMEs may also enjoy the advantages of newness because managerial routines have yet to be developed, and the venture has not yet experienced inertia in terms of organizational rigidity (Autio, Sapienza, & Almeida, 2000). Younger firms are more likely to be flexible and open to new knowledge, particularly external knowledge (Love, Roper, & Zhou, 2016). According to Sapienza, Autio, George, and Zahra (2006), the lack of inertia and organizational routines in younger firms can help them internationalize in various ways. First, because younger SMEs do not have to unlearn existing routines that are inadequate for the international market, these firms can more easily recognize and pursue opportunities in international markets. Second, newness makes SMEs more open to various types of new knowledge and opportunities. Third, younger firms are less likely to have higher levels of commitment to domestic partners and customers, making them more open to international opportunities. Therefore, newness is not only a liability but can also provide SMEs with advantages that facilitate early internationalization (Renko, Kundu, Shrader, Carsrud, & Parhankangas, 2016). For these reasons, scholars expect younger SMEs to benefit more from the relational resources and knowledge about foreign markets residing in the BG network than older SMEs (Guillén, 2000; Kumar, Singh, Purkayastha, Popli, & Gaur, 2020).

In contrast, Fernhaber, McDougall-Covin, and Shepherd (2009) and Zahra, Ireland, and Hitt (2000) challenge these assumptions by stating that older firms hold greater resources and enjoy a higher number of network ties, which enable international expansion. Yet, the question is not how many network ties SMEs have developed, but the impact of the number of network ties. Therefore, their impact is potentially lower for older than younger SMEs as the former have more available resources. Building upon this notion, we argue that BG affiliation and the derived relational resources facilitate international sales for SMEs and that this effect is stronger for younger SMEs. Thus, we propose:

**Hypothesis 3a.** : The impact of BG affiliation on SME international sales intensity is negatively moderated by its age.

**Hypothesis 3b.** : The impact of BG affiliation on SME international sales diversification is negatively moderated by its age.

### 3.4. The moderating effect of home-country institutional support on the relationship between BG affiliation and SMEs' international sales

The final set of hypotheses considers the moderating effect of home-country institutional support on the BG affiliation–internationalization relationship. SMEs are embedded in a specific home-country institutional setting, which influences their strategic behavior by creating constraints and incentives for the firm (Cuervo-Cazurra, Luo, Ramamurti, & Ang, 2018; Descotes, Walliser, Holzmüller, & Guo, 2011). Thus, SMEs seeking to engage in international sales can benefit from home-country institutional resources, including foreign market knowledge, financial support for participating in trade missions, and assistance in making foreign market contacts (Oparaocha, 2015). Accordingly, home-country institutions may provide SMEs with unique access to location-based resources, including financial, human, and social capital, which are necessary for internationalization. This assumption holds in situations where home-country institutions provide a high degree of institutional support to SMEs by enacting policies that facilitate firm internationalization (i.e., participating in multilateral trade agreements, removal of regulatory obstacles, streamlining of export procedures and trade regulations, among others) (Nuruzzaman, Singh, & Gaur, 2020). These initiatives, in turn, reduce the explicit and hidden costs of exporting, including the costs that SMEs incur to comply with regulatory demands and export bureaucracy. Institutional support can also indirectly improve SMEs' ability to sell abroad by making their products more competitive through reduced production costs or providing better access to cheaper sources of finance. Taken together, SMEs can exploit these institutional advantages to overcome the liability of foreignness and outsidership in international markets and enable

internationalization. In contrast, less-developed institutional settings may constrain firm internationalization and restrict access to international trading, e.g., by creating significant bureaucratic controls and regulatory restrictions that create significant obstacles for SMEs seeking to engage in international business (Manolopoulos, Chatzopoulou, & Kottaridi, 2018). Thus, SMEs from certain countries may find conditions more favorable for selling abroad than SMEs from elsewhere. However, the lack of institutional support does not prevent SMEs from internationalizing altogether. Instead, it may force them to find alternative ways to upgrade their existing resources and capabilities required to internationalize (Narooz & Child, 2017).

Based on these reasons, this study outlines that the dependency on network ties and the benefits received from BG affiliation are contingent upon the home-country institutional support. Specifically, SMEs in home markets with higher institutional support will benefit less from BG affiliation. The reason behind this expected moderating effect is that SMEs located in countries with low institutional support cannot rely on their institutional network to acquire the necessary resources to facilitate their internationalization and instead must secure these resources from alternative sources, such as BG network ties (Narooz & Child, 2017). In contrast, SMEs located in home countries with high institutional support can rely more on public and semi-public institutions to gain access to advisory and knowledge-support services, information about funding opportunities, help in foreign partner selection and business contacts, and foreign market knowledge (Oparaocha, 2015). Thus, we expect that SMEs located in countries with low degrees of institutional support are more proactive in utilizing the network resources embedded in BGs. Thus, we propose:

**Hypothesis 4a.** : The impact of BG affiliation on SME international sales intensity is negatively moderated by institutional support.

**Hypothesis 4b.** : The impact of BG affiliation on SME international sales diversification is negatively moderated by institutional support.

The graphical illustration of these hypotheses regarding the impact of BG affiliation on international sales intensity and diversification in SMEs is presented in Fig. 1.

## 4. Methodology

### 4.1. Sample and data

Considering the study objective to investigate the impact of BG affiliation on the SMEs' international sales intensity and diversification, we used the Flash Eurobarometer survey titled "Internationalisation of Small and Medium-sized Enterprises." This data set contains information about the international business activities and BG affiliations of 14,513 SMEs from the European Union 28 countries plus Albania, Macedonia, Iceland, Moldova, Montenegro, and Turkey. In line with previous

studies, the Eurobarometer survey defined SMEs as firms employing fewer than 250 employees (Galkina & Chetty, 2015; Moen, Heggseth, & Lome, 2016). While some studies also define SMEs in terms of turnover, for example, the official EU definition, defining SMEs in terms of a number of employees, has been highlighted as the most useful discriminator in the context of management research, as SMEs often refuse to share their turnover figures (Ojala & Tyrväinen, 2007). This was also the case in the Eurobarometer survey, where more than 40% of the respondents refused to share their turnover.

The data for the Eurobarometer survey were collected in July 2015 using computer-assisted telephone interviewing to help unravel any confusions and prevent incorrect answers. In the survey, respondents were selected using a stratified probability sampling procedure based on size and industry (manufacturing, services, retail, and other industry), with each stratum being adjusted to each country's population. This allows for a more representative sample of the population. To ensure the trustworthiness of the collected data, the selected respondents were general managers, financial directors, or significant owners.

The data set was missing some data and we examined these omissions before further analysis. For example, around 10% of the respondents provided partial responses (i.e., 1,460 out of 14,513). We identified that most of the missing data related to firm age ( $\approx 5\%$ ), export propensity and export intensity ( $\approx 3\%$ ), and firm size ( $\approx 2\%$ ). Most of the partial responses were only missing data for one variable ( $\approx 67\%$ ), and fewer than 6% omitted data for three or four variables. We detected 13 unique patterns, with the most frequent missing-data pattern being related to firm age (561 respondents), followed by export propensity and export intensity (316 respondents), and firm size (223 respondents). The comparison of partial and complete responses showed large agreement regarding means and variances, suggesting similarities between the two groups in terms of independent and dependent variables. Thus, building upon the limited indication that data are not randomly missing and given the overall limited amount of missing data, we employed pair-wise deletion to handle the missing data (Newman, 2014).

### 4.2. Measures and variables

#### 4.2.1. Dependent variables

Internationalization is a multidimensional construct (Sullivan, 1994). Following previous studies, we operationalized internationalization using two distinct indicators: (1) international intensity of sales and (2) international diversification of sales (Raymond & St-Pierre, 2011; Rubino et al., 2019). These two measures captured different aspects of a firm's international expansion. International sales intensity captured the extent of a firm's international operations and was measured as the proportion of a firm's sales in foreign countries to its total sales in a given year. This is a widely used measure of

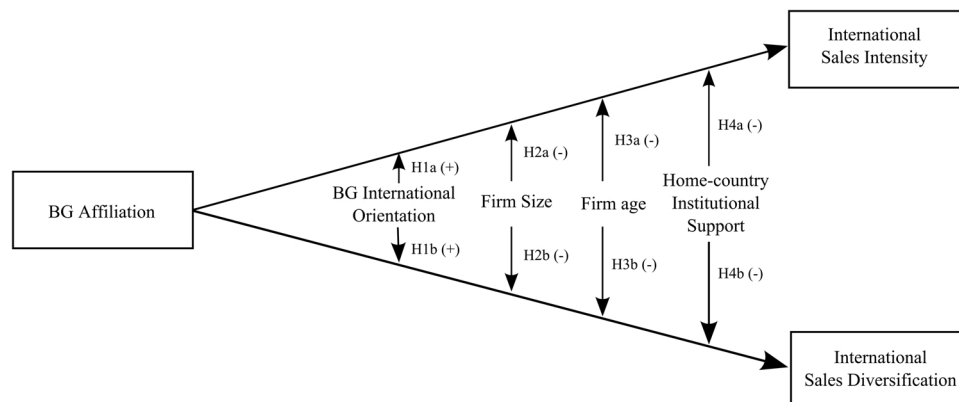


Fig. 1. Hypotheses of the study.

internationalization, which captures the SME's dependence on foreign sales (Hennart, 2011). International sales diversification is used to capture the extent of regional concentration of a firm's international sales and was measured using an entropy approach based on the dispersion of the firm's revenues derived from different geographic regions (Hitt, Hoskisson, & Kim, 1997). The entropy measure is  $\sum_{i=1}^n P_i \times \ln\left(\frac{1}{P_i}\right)$ , where  $P_i$  represents the sales attributed to global market region  $i$  (where 1 = national market; 2 = European market; 3 = rest-of-world) and  $\ln\left(\frac{1}{P_i}\right)$  is the weight given to each global market region. Hence, our measure of international diversification ranged between 0 (i.e., SMEs had all their sales concentrated in one region) and 1 (i.e., SMEs had an equal share of sales in different geographical regions). Thus, higher values indicated more dispersed activities in a larger number of regions, and near-zero values revealed a market concentration strategy (Majocchi & Strange, 2012).

#### 4.2.2. Independent and moderating variables

The principal independent variable in this study was BG affiliation. Following previous studies, BG affiliation was operationalized to capture whether a firm is a member of a BG (Iona, Leonida, & Navarra, 2013; Kumar, Singh, Purkayastha, Popli, & Gaur, 2020; Saiyed, Fernhaber, Basant, & Dhandapani, 2021). The Eurobarometer survey captured BG affiliation by asking respondents whether the company was independent or part of a BG. Thus, BG affiliation was self-reported by the SME as being legally independent but linked with one or more enterprises in a stable manner (Tajeddin & Carney, 2019). The benefit of basing BG affiliation on self-reported data was that it allowed us to capture BGs linked by both formal ties (e.g., ownership) and informal ties, which would not be possible if basing BG affiliation purely on information about the ownership (Aguilera et al., 2020). To allow us to test our hypotheses that the impact of BG affiliation on SME international sales intensity and diversification is stronger for firms affiliated with international BGs compared to domestic BGs, we captured BG affiliation using a categorical variable that took a value of 1 if the firm was independent (i.e., unaffiliated); 2 if the firm was affiliated to a domestic BG; and 3 if the firm was affiliated to an international BG. SMEs were considered part of a domestic BG when all BG affiliates were located in the same country. In contrast, SMEs were classified as affiliated with an international BG when the group contained at least two enterprises located in two different countries.

We measured firm size as the number of full-time employees and operationalized it as its natural logarithm to correct for skewness. Similarly, we measured firm age as the number of years since the firm's inception and used a natural logarithm transformation. Following Nuruzzaman et al. (2020), we measured institutional support using a composite indicator of 10 country-level items related to (1) foreign market access, (2) documentary compliance, (3) time and costs to export, (4) performance of trade- and transport-related infrastructure, and (5) credit availability. These items all measured the indirect institutional support in the areas of trade and non-trade, including the function of the factor markets that indirectly help the trade activities of firms or help reduce the costs of exports. Because the measurement units for these items differed, we normalized these measures so that all the items measured the distance of a country to the frontier, that is, the best performance observed across countries (Tajeddin & Carney, 2019). We created the indicator of institutional support using data from the World Bank's *Doing Business index* and *Logistics Performance Index*, and the World Economic Forum's *Global Enabling Trade index*. To measure (1) foreign market access, we used data from the World Economic Forum on the tariff barriers faced by each country's exporters in destination markets, including the average tariffs faced by a country's exporters and the margin of preference in destination markets negotiated through bilateral or regional trade agreements, or granted in the form of trade

preferences. To measure (2) documentary compliance, we used data from the World Bank's *Doing Business index* for the time and cost of documentary compliance associated with the logistical process of exporting. We collected data related to (3) time and costs to export from the World Bank's *Doing Business index* for "trading across borders," which captured the time and costs associated with the logistical process of exporting. Data related to the (4) performance of trade- and transport-related infrastructure was captured using the World Bank's *Logistics Performance Index*, which provided an aggregate measure of logistical performance based on six broad components: customs, infrastructure, international shipments, logistics quality and competence, tracking and tracing, and timeliness. To measure (5) credit availability, we used the World Bank's *Doing Business index* measure of the ease of access to credit.

#### 4.2.3. Control variables

We included several control variables that might have influenced both the SME's international sales intensity and diversification. These included firm characteristics, such as the aforementioned potential moderator variables: firm size and age. In addition, industry affiliation is also likely to influence international sales intensity and diversification, as it partly determines the context in which firms operate, affecting the internationalization process and strategic choices of SMEs (Dasí, Iborra, & Safón, 2015; Majocchi & Strange, 2012). Thus, industry affiliation was an important context variable in understanding firm internationalization, including the decision to internationalize and the level of involvement in foreign markets (Andersson, 2004; Andersson, Evers, & Kuivalainen, 2014). To control for industry effects, we included industry dummies based on the statistical classification of economic activities in the European Community (aka the NACE categories): *manufacturing* (NACE cat. C), *services* (NACE cat. H/I/J/K/L/M/N/Q/R/S), *retail* (NACE cat. G), and *other industry* (NACE cat. B/D/E/F).

Finally, we controlled for domestic market size, as previous studies have emphasized that firms face different incentives and opportunities to internationalize depending on the size of their home markets (Baum, Schwens, & Kabst, 2013). The insufficient size of the domestic market is likely to constrain firm growth and push firms into considering internationalization (Crick & Spence, 2005). Thus, firms from small economies are likely to exhibit higher degrees of internationalization compared to firms from large economies (Glaum & Oesterle, 2007). We measured the size of the firm's home country as the logarithm of transformation of its average real gross domestic product (GDP) in Euros over three years (2013–2015) using data from Eurostat (Blake & Moschieri, 2017) (See Table 1).

#### 4.3. Estimation method

We used fractional logit regression analysis to test our hypotheses. Both of our dependent variables are fractional dependent variables, meaning they are bounded between 0 and 1, like dichotomous variables, but they can take on every value within these boundaries (Wulff & Villadsen, 2020). This means that linear regression models, including linear regression with a log-odds transformation, are inappropriate, as they can produce out-of-bounds predictions (Villadsen & Wulff, 2019; Wiersema & Bowen, 2009). Fractional logit regression analysis is the optimal approach for estimating fractional dependent variables, as this estimation method fits models on a continuous zero to one scale and models the conditional expected value of the dependent variable as a logistic function (Adegbesan & Higgins, 2011; Wulff & Villadsen, 2020).

In addition, it is less restrictive than two-limit tobit models, as it makes no distributional assumptions (Papke & Wooldridge, 1996). Thus, fractional regression analysis is robust against distributional misspecifications (Wulff & Villadsen, 2020). Finally, the fractional logit model ensures that the predicted values of dependent variable are within the natural bounds of the variable (Arregle, Naldi, Nordqvist, & Hitt, 2012). Thus, fractional logit models take the bounded nature of

**Table 1**  
Variables included in the analysis.

Variable	Description	Source
International sales intensity	Proportion of a firm's revenue in foreign countries to its total revenue each year (FTST)	Eurobarometer 421
International sales diversification	$\sum_{i=1}^n P_i \times \ln\left(\frac{1}{P_i}\right)$ where $P_i$ is the sales attributed to global market region $i$ (1 = national market; 2 = European Market; 3 = rest-of-world) and $\ln\left(\frac{1}{P_i}\right)$ is the weight given to each global market region.	Eurobarometer 421
BG affiliation	Categorical variable: 0=independent, 1=BG affiliated	Eurobarometer 421
BG geographic dispersion	Categorical variable: 1=independent, 2=domestic BG, 3= international BG	
SME size	Natural logarithm of the number of employees	Eurobarometer 421
SME age	Natural logarithm of the number of years since establishment	Eurobarometer 421
Manufacturing	Dummy variable=1 if SME is in the manufacturing industry (NACE cat. C)	Eurobarometer 421
Retail	Dummy variable=1 if SME is in the retail industry (NACE cat. G)	Eurobarometer 421
Service	Dummy variable=1 if SME is in the service industry (NACE cat. H/I/J/K/L/M/N/Q/R/S)	Eurobarometer 421
Other Industry	Dummy variable=1 if SME is in other industrial industry (NACE cat. B/D/E/F)	Eurobarometer 421
Domestic market size	Natural logarithm of the average home country GDP over the previous 3 years	Eurostat
Institutional support	A composite indicator of country-level items related to (1) foreign market access, (2) documentary compliance, (3) cost to export, (4) performance of trade and transport-related infrastructure, and (5) getting credit.	Doing Business Index, Logistics Performance Index, Global Enabling Trade Index

fractional dependent variables into account, as well as the possibility of observing values at the boundaries (Wagner, 2001).

## 5. Results

In this section, we present the results of our study. Table 2 provides means, standard deviations, and Pearson correlation coefficients for the variables used in the regression models. As outlined in Table 2, the correlation coefficient did not identify any collinearity, as all correlations were well below the .8 cut-off point (Mason & Perreault, 1991). Furthermore, the regression models were checked for potential multicollinearity by calculating the variance inflation factor (VIF), which also suggested that multicollinearity is not a problem, as none of the VIFs for the direct effects exceeded 1.24. Hence, we conclude that multicollinearity is not a concern.

In our sample, approximately 60% of the SMEs reported no international sales, whereas 2% reported that all their sales were to other countries. The mean share of international sales for the whole sample was 15%, whereas the mean was 39% for the SMEs with some international sales. Furthermore, one-fifth of the sampled SMEs reported being affiliated with a BG, of which 43% of the BG-affiliated SMEs were affiliated with a domestic BG and 57% were affiliated with an international BG. The proportion of BG-affiliated firms was higher in some countries, as illustrated in Fig. 2. Our findings show that a higher proportion of SMEs were part of BGs in countries like Sweden, Belgium, Malta, and Denmark, where 30% to 40% of the sampled SMEs reported being part of a BG. In contrast, BG affiliation was found to be less prevalent in countries such as North Macedonia, Iceland, Bulgaria, and Cyprus, where fewer than 10% reported being part of a BG.

### 5.1. Impact of BG affiliation on international sales intensity

In Table 3, we present the results of the fractional regression analyses of international sales intensity. We first estimated a baseline model (Model 1) that estimated the impact of only the control variables on the SMEs' international sales intensity. In line with our expectations, firm size ( $\beta = .27$ ,  $p < .001$ , 95% CI = .24, .30) and institutional support ( $\beta = .06$ ,  $p < .001$ , 95% CI = .05, .07) had a positive impact on SMEs' international sales intensity, while domestic market size ( $\beta = -.28$ ,  $p < .001$ , 95% CI = -.34, -.22) and firm age ( $\beta = -.11$ ,  $p < .001$ , 95% CI = -.15, -.05) had a negative impact.

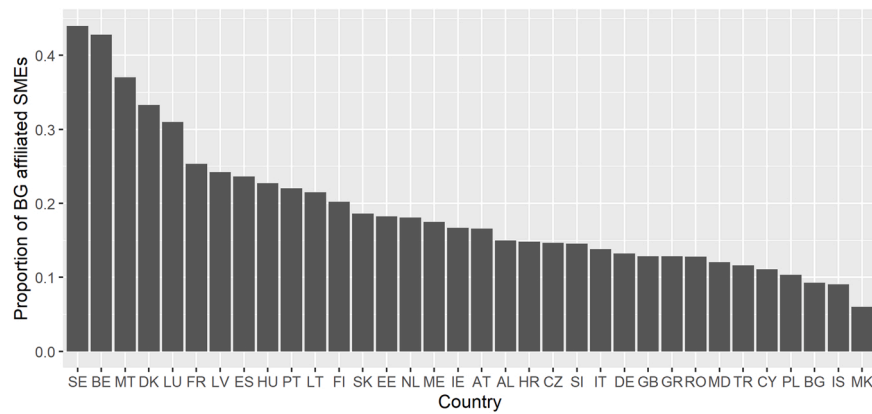
Next, we included the independent variables in a stepwise manner. First, we included BG affiliation to estimate the direct effect of BG affiliation on international sales intensity (Model 2). Our results show that BG affiliation was positively related to the international sales intensity only when the SMEs were affiliated to international BGs ( $\beta = .81$ ,  $p < .001$ , 95% CI = 0.71, 0.92), while BG affiliation was negatively related to international sales intensity for SMEs affiliated with domestic

**Table 2**  
Descriptive statistics and Pearson correlations.

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1 INT	0.15	0.29										
2 DIV	0.17	0.28	.71***									
3 SIZE	2.74	1.25	.17***	.20***								
4 AGE	2.87	0.80	.02*	.09***	.27***							
5 RETAIL	0.31	0.46	-.02	.01	-.16***	.00						
6 SERV	0.30	0.46	-.09***	-.11***	.02*	-.06***	-.43***					
7 IND	0.18	0.39	-.14***	-.17***	-.02	-.05***	-.32***	-.31***				
8 DMSIZ	5.21	0.72	-.07***	.01	-.02*	.13***	-.04***	.06***	-.04***			
9 ISUP	0.00	4.40	.08***	.08***	.02**	-.02*	.02	-.04***	.03***	.19***		
10 BGA	0.19	0.40	.14***	.12***	.23***	.03**	.00	.04***	-.09***	.02*	.04***	
11 IBGA	0.11	0.31	.20***	.16***	.17***	.01	.03***	.00	-.09***	.00	.04***	.72***

Notes: \* Significant at the 0.1 level of significance (two-tailed test); \*\* significant at the 0.05 level of significance (two-tailed test); \*\*\* significant at the 0.01 level of significance (two-tailed test). INT international sales diversification, DIV international sales diversification, SIZE firm size, AGE firm age, RETAIL retail industry affiliation, SERV service industry affiliation, IND other industry affiliation, DMSIZ domestic market size, ISUP institutional support, BGA business group affiliation, IBGA international business group affiliation.





**Fig. 2.** Proportion of BG affiliated SMEs across countries Note: Countries are represented through Alpha -2 country ISO codes as described in the ISO 3166 international standard.

**Table 3**

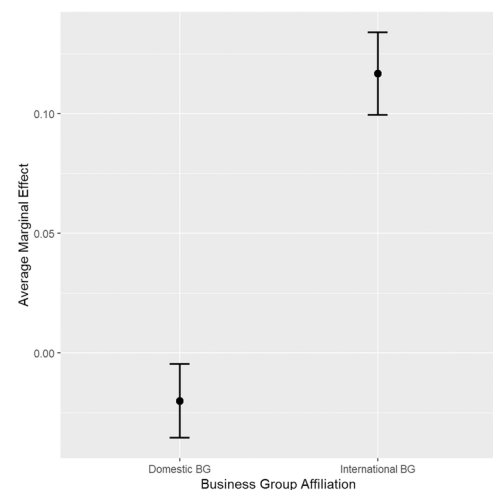
Fractional Logit Regression estimating international sales intensity. (Baseline = independent SMEs).

	Model 1	Model 2	Model 3
Size	0.27 *** (0.24, 0.30)	0.23 ** (0.19, 0.26)	0.25 *** (0.21, 0.29)
Age	-0.11 *** (-0.16, -0.06)	-0.09 *** (-0.14, -0.04)	-0.12 *** (-0.18, -0.06)
Retail	-0.72 *** (-0.82, -0.63)	-0.75 *** (-0.85, -0.66)	-0.75 *** (-0.85, -0.66)
Services	-1.13 *** (-1.23, -1.02)	-1.12 *** (-1.22, -1.02)	-1.12 *** (-1.22, -1.01)
Other Industry	-1.76 *** (-1.91, -1.62)	-1.69 *** (-1.84, -1.55)	-1.70 *** (-1.84, -1.56)
Domestic market size	-0.28 *** (-0.34, -0.22)	-0.28 *** (-0.34, -0.23)	-0.29 *** (-0.34, -0.23)
Institutional support	0.06 *** (0.05, 0.07)	0.05 *** (0.04, 0.06)	0.06 *** (0.05, 0.07)
BG affiliation			
BG domestic		-0.19 * (-0.34, -0.04)	-0.71 * (-1.38, -0.03)
BG international		0.81 *** (0.71, 0.92)	1.06 *** (0.64, 1.48)
Size * BG domestic			-0.04 (-0.18, 0.10)
Size * BG international			-0.12 ** (-0.21, -0.03)
Age * BG domestic			0.21 * (0.02, 0.40)
Age * BG international			0.06 (-0.07, 0.19)
Institutional support * BG domestic			-0.00 (-0.04, 0.03)
Institutional support * BG international			-0.04 ** (-0.06, -0.01)
N	13251	13193	13193
Pseudo R2	0.12	0.14	0.15

\*p < 0.05.

\*\*p < 0.01

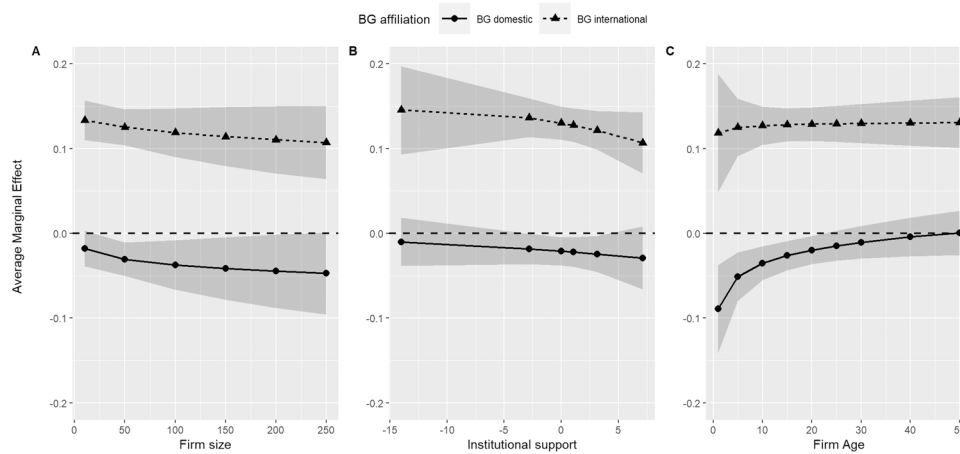
\*\*\*p < 0.001



**Fig. 3.** Impact of business group affiliation on predicted international sales intensity Note: Average marginal effects were calculated by assessing the effect of domestic and international BG affiliation on international sales intensity for each observation based on Model 3. Error bars denote 95% confidence intervals.

BGs ( $\beta = -.19$ ,  $p < .05$ , 95% CI = -0.34, -0.04). To interpret these results, we computed the average marginal effect of BG affiliation on international sales intensity for unaffiliated, domestically BG-affiliated, and internationally BG-affiliated SMEs based on Model 3. As illustrated in Fig. 3, our data suggests that being affiliated with international BGs increased international sales intensity by 11.7% compared with unaffiliated SMEs. In contrast, being affiliated with domestic BGs decreased international sales by 2% compared with unaffiliated SMEs. Thus, our findings provide support for hypothesis H1a.

We then included the interaction terms to estimate the impact of firm size and age and institutional support on the BG affiliation–international sales intensity relationship. Our results show that both (H2a) firm size ( $\beta = -.12$ ,  $p < .01$ , 95% CI = -0.21, -0.03) and (H4a) institutional support ( $\beta = -.04$ ,  $p < .01$ , 95% CI = -0.06, -0.01) negatively moderated the impact of international BG affiliation on international sales intensity, while (H3a) firm age positively moderated the impact of domestic BG affiliation on international sales intensity ( $\beta = .21$ ,  $p < .05$ , 95% CI = 0.02, 0.40). We illustrate the interaction effects of firm size and institutional support on the international BG affiliation–international sales intensity relationship in Fig. 4. This figure illustrates the average marginal effects of BG affiliation on the international sales intensity based upon Model 4 at various firm sizes, firm ages, and levels of institutional support. First, our results show that the average marginal effects of BG affiliation on



**Fig. 4.** Average Marginal Effect of BG affiliation on international sales intensity at various sizes, ages and levels of institutional support. Note: Average marginal effects were calculated by assessing the effect of BG affiliation for each observation at selected firm sizes, ages, and levels of institutional support based on Model 4. Shaded regions denote 95% confidence intervals.

international sales intensity declined as the SME's size increased. However, the decline was relatively small: from 0.13 for SMEs with 10 employees to 0.11 for SMEs with 200–250 employees. Similarly, our results show that the average marginal effect of international BG affiliation was larger for SMEs in home countries with lower levels of institutional support.

**Table 4**  
Fractional Logit Regression estimating international sales diversification. (Baseline = independent SMEs).

	Model 4	Model 5	Model 6
Size	0.27 *** (0.24, 0.30)	0.24 *** (0.21, 0.27)	0.27 *** (0.24, 0.31)
Age	0.05 * (0.00, 0.09)	0.06 ** (0.02, 0.11)	0.03 (-0.02, 0.09)
Retail	-0.56 *** (-0.65, -0.48)	-0.58 *** (-0.66, -0.49)	-0.59 *** (-0.67, -0.50)
Services	-1.05 *** (-1.14, -0.96)	-1.03 *** (-1.12, -0.94)	-1.04 *** (-1.13, -0.95)
Industry	-1.61 *** (-1.73, -1.49)	-1.56 *** (-1.68, -1.44)	-1.57 *** (-1.69, -1.45)
Domestic market size	-0.01 (-0.06, 0.04)	-0.01 (-0.06, 0.04)	-0.01 (-0.06, 0.04)
Institutional support	0.04 *** (0.03, 0.05)	0.04 *** (0.03, 0.04)	0.04 *** (0.03, 0.05)
BG affiliation			
BG domestic		-0.08 (-0.21, 0.04)	-0.07 (-0.61, 0.48)
BG international		0.55 *** (0.45, 0.64)	0.84 *** (0.45, 1.24)
Size * BG domestic			-0.04 (-0.16, 0.07)
Size * BG international			-0.21 *** (-0.29, -0.13)
Age * BG domestic			0.04 (-0.11, 0.20)
Age * BG international			0.14 * (0.02, 0.26)
Support * BG domestic			-0.01 (-0.04, 0.01)
Support * BG international			-0.03 ** (-0.05, -0.01)
N	13108	13053	13053
Pseudo R2	0.12	0.13	0.13

\*p < 0.05.

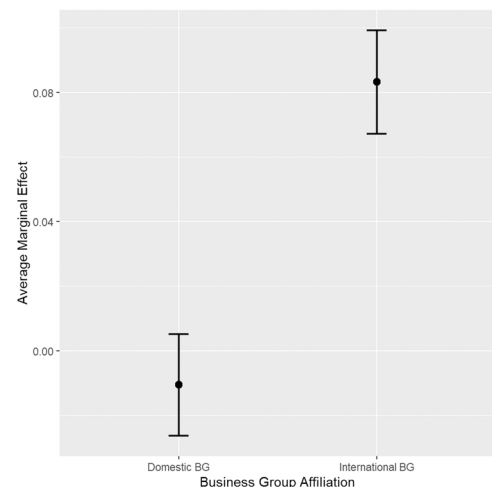
\*\*p < 0.01.

\*\*\*p < 0.001.

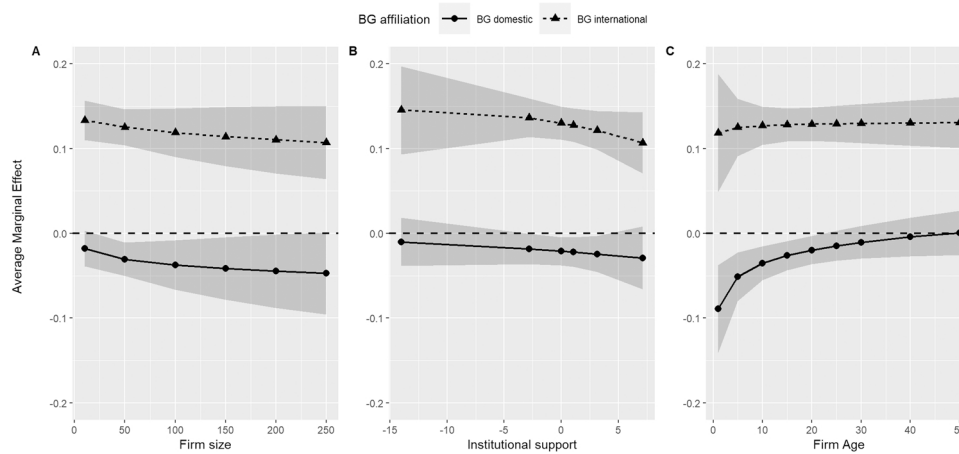
## 5.2. Impact of BG affiliation on international sales diversification

Next, we estimated the impact of BG affiliation on international sales diversification. We present the results of these analyses in Table 4. We first estimated a baseline model (Model 4), which shed light on the impact of the controls on SMEs' international diversification. This model shows that firm size ( $\beta = .27$ ,  $p < .001$ , 95% CI = .24,.30), firm age ( $\beta = .05$ ,  $p < .05$ , 95% CI = -.00,.09), and institutional support ( $\beta = .04$ ,  $p < .001$ , 95% CI = .03,.05) all had a positive impact on SMEs' international sales diversification.

As illustrated in Model 5, our results show that BG affiliation was positively related to international sales diversification only when SMEs were affiliated with international BGs (H1b) ( $\beta = .55$ ,  $p < .001$ , 95% CI = 0.45, 0.64), but not for domestic BG affiliation ( $\beta = -.08$ ,  $p > .05$ , 95% CI = -.21,.04). As illustrated in Fig. 5, the average marginal effect is positive for international BGs and negative for domestic BGs. Specifically, our data suggest that international sales diversification was likely to decrease for SMEs affiliated with domestic BGs compared with unaffiliated SMEs by only 1%. In contrast, international sales diversification was likely to increase by 8.3% when SMEs were affiliated with international BGs compared with independent firms. This positive impact of



**Fig. 5.** Impact of business group affiliation on predicted international sales diversification. Note: Average marginal effects were calculated by assessing the effect of domestic and international BG affiliation on international sales diversification for each observation based on Model 7. Error bars denote 95% confidence intervals.



**Fig. 6.** Average Marginal Effect of BG affiliation on international sales diversification at various sizes, ages and levels of institutional support. Note. Average marginal effects were calculated by assessing the effect of BG affiliation for each observation at selected firm sizes, ages, and levels of institutional support based on Model 8. Shaded regions denote 95% confidence intervals.

BG affiliation on international diversification for SMEs affiliated with international BGs supports H1b.

For the other interactions, our results show that firm size ( $\beta = -.21$ ,  $p < .001$ , 95% CI =  $-.29, -.13$ ), age ( $\beta = .14$ ,  $p < .05$ , 95% CI =  $0.02, 0.26$ ), and institutional support ( $\beta = -.03$ ,  $p < .01$ , 95% CI =  $-.05, -.03$ ) moderated the impact of international BG affiliation on international sales diversification (see Model 6). As illustrated in Fig. 6, the average marginal effect of international BG affiliation on international sales diversification decreased from 0.12 for SMEs with 10 employees to 0.02 for SMEs with 250 employees. Thus, for the largest SMEs, the impact of BG affiliation on international sales diversification was almost nonexistent. Hence, we confirm hypothesis H2b, but only for international BGs. In contrast, the average marginal effect of international BG affiliation on international sales diversification increased from 0.07 for SMEs with a firm age of 5 to 0.13 for SMEs with a firm age of 50 years. Thus, older SMEs seem to derive greater benefits from being affiliated with international BGs in terms of international sales diversification than younger SMEs. However, as illustrated in Fig. 6, the effect diminished as the firm grew older. This result is contrary to what we expected, and so H3b is rejected. Finally, our results show that the average marginal effects of BG affiliation on international diversification declined as the level of institutional support increased, with SMEs in home countries with below-average institutional support experiencing the highest average marginal effect of international BG affiliation on international sales diversification. This indicates that institutional support dilutes the need for interfirm networks such as BGs. Thus, we also confirm hypothesis H4b. A summary of our hypothesis testing results is provided in Table 5.

### 5.3. Robustness checks

To check the robustness of our results, we used an alternative estimation method and measure of firm internationalization to assess the sensitivity of our results to other conditions. We alternatively measured internationalization as international sales propensity, i.e., whether a firm exported to a foreign market (Saridakis, Idris, Hansen, & Dana, 2019). Using this alternative measure of internationalization, we conducted a series of logistic regression analyses to test our hypotheses. We present the results of these logistic regressions in Table 6. The results in Model 8 show that SMEs affiliated with international BGs were more than twice as likely to be engaged in exporting compared with stand-alone SMEs (OR = 2.13,  $p < .001$ , 95% CI = 1.88, 2.42). In contrast, we found that SMEs affiliated with domestic BGs were significantly less likely to export (OR = 0.84,  $p < .05$ , 95% CI = 0.73, 0.97). The results from Model 9 show a negative and significant relationship between firm

**Table 5**

Summary of hypotheses and empirical findings.

Hypothesis	Description	Results
H1a	The impact of BG affiliation on an SME's international sales intensity is stronger for one affiliated with an international BG than for a counterpart affiliated with a domestic BG.	Supported
H1b	The impact of BG affiliation on an SME's international sales diversification is stronger for one affiliated with an international BG than for a counterpart affiliated with a domestic BG.	Supported
H2a	The impact of BG affiliation on an SME's international sales intensity is negatively moderated by its size.	Supported for IBGs, but not DBGs
H2b	The impact of BG affiliation on an SME's international sales diversification is negatively moderated by its size.	Supported for IBGs, but not DBGs
H3a	The impact of BG affiliation on an SME's international sales intensity is negatively moderated by its age.	Supported for DBGs, but not IBGs
H3b	The impact of BG affiliation on an SME's international sales diversification is negatively moderated by its age.	Supported for IBGs, but not DBGs
H4a	The impact of BG affiliation on an SME's international sales intensity is negatively moderated by institutional support.	Supported for IBGs, but not DBGs
H4b	The impact of BG affiliation on an SME's international sales diversification is negatively moderated by institutional support.	Supported for IBGs, but not DBGs

\*Note: DBGs = Domestic business groups; IBGs = International business groups.

size and international BG affiliation (OR = 0.86,  $p < .01$ , 95% CI = 0.77, 0.95), as well as between institutional support and international BG affiliation (OR = 0.97,  $p < .05$ , 95% CI = 0.94, 1.0). This indicates that BG affiliation effects were contingent upon the firm size and institutional support in the home country. Hence, the alternative measure of firm internationalization and the alternative method of estimation gave the same results as those reported in the fractional regression analysis, confirming the stability of our results.

## 6. Discussion

The role of BGs in firm internationalization has received growing attention in the literature (Holmes et al., 2018; Dau et al., 2021). However, despite the increased attention and numerous studies, the exact impact of BG affiliation on firm internationalization remains

**Table 6**

Logistic Regression estimating international sales propensity. (Baseline = independent SMEs).

	Model 7	Model 8	Model 9
Size	1.37 *** (1.32, 1.41)	1.33 *** (1.28, 1.37)	1.36 *** (1.31, 1.41)
Age	1.06 * (1.01, 1.12)	1.08 ** (1.03, 1.14)	1.06 (1.00, 1.12)
Retail	0.54 *** (0.49, 0.60)	0.53 *** (0.48, 0.59)	0.53 *** (0.48, 0.59)
Services	0.22 *** (0.20, 0.25)	0.22 *** (0.20, 0.25)	0.22 *** (0.20, 0.25)
Industry	0.13 *** (0.12, 0.15)	0.14 *** (0.12, 0.16)	0.14 *** (0.12, 0.16)
Domestic market size	0.89 *** (0.84, 0.94)	0.89 *** (0.84, 0.94)	0.89 *** (0.84, 0.94)
Institutional support	1.05 *** (1.04, 1.06)	1.05 *** (1.04, 1.06)	1.06 *** (1.04, 1.07)
BG affiliation			
BG domestic		0.85 * (0.74, 0.98)	0.80 (0.44, 1.47)
BG international		2.15 *** (1.90, 2.44)	2.34 ** (1.41, 3.90)
Size * BG domestic			0.94 (0.82, 1.06)
Size * BG international			0.86 ** (0.77, 0.95)
Age * BG domestic			1.10 (0.92, 1.31)
Age * BG international			1.16 (0.98, 1.35)
Institutional support * BG domestic			1.00 (0.97, 1.03)
Institutional support * BG international			0.97 * (0.94, 1.00)
N	13251	13193	13193
AIC	15733.97	15514.85	15512.33
BIC	15793.90	15589.72	15632.13
Pseudo R2	0.20	0.21	0.21

\*p < 0.05. \*\*p < 0.01. \*\*\*p < 0.001.

inconclusive. Hence, this study aims to understand better when and under which circumstances BG affiliation facilitates international sales intensity and diversification. We argue that the value of BGs for affiliated SMEs depends on the characteristics of the interfirm network, its ability to provide SMEs with access to necessary knowledge about international opportunities and foreign markets, the size of the firm, and the availability of institutional support for internationalization in the home country.

Our findings show that BG affiliation is only beneficial when the inter-firm network comprises firms from foreign countries. In contrast, being affiliated with a domestic BG has a small but statistically significant negative impact on both international sales intensity and diversification. Thus, although BG affiliation may help SMEs seeking to expand abroad identify and exploit new international opportunities, they may also limit their ability to do so. However, if the BG is international, it is more likely to provide access to relevant resources and knowledge about foreign markets, thereby increasing the internationalization of affiliated firms (Lamin, 2013). Our findings that BG affiliation can be beneficial to firms seeking to expand abroad are consistent with some past studies, e. g., Purkayastha et al. (2018) and Tajeddin and Carney (2019) that found a positive correlation between BG affiliation and firm internationalization. However, those studies were performed in countries with weaker institutions (India and Africa), in which internationalization can be considered a must for firms to escape the home environment and avoid the weaknesses of the domestic institutional conditions (Nuruzzaman et al., 2020; Cuervo-Cazurra et al., 2018). The study conducted by Tajeddin & Carney (2019) found a positive but weak relation between BG affiliation and international sales intensity, which may be caused by

the lack of distinction of the orientation to the domestic or international nature of the BG. In fact, in their mediated model, the estimate for BG is non-significant, while the estimate was positive in the non-mediated model. This seems to pinpoint that some type of moderator may act so stronger and weaker –even negative– effects may compensate one-another. Chakrabarti and Mondal (2017) found that BG affiliation had a negative impact on export intensity in India. However, they did also not control for the possibility that some BGs were more international and others are domestic, which they acknowledged in study.

Regarding size and age, our findings are mostly consistent with past research, suggesting a positive relation between size and international sales intensity and diversity (e.g. Majocchi et al., 2005), while age had a negative effect on international sales intensity and a positive effect on international sales diversification. This is perhaps unsurprising, as larger firms are in possession of more resources to allocate to international activities, so it can invest in growing internationally by penetrating existing foreign markets and/or diversifying into new foreign markets. Furthermore, older firms are more experienced and can use their experience in international networks to help expand its international sales by addressing new international markets. It is, however, surprising that age had a negative effect on international sales intensity. This may, however, be a manifest of an increasing international orientation of new ventures and start-ups, where environmental and technological changes are allowing companies to undertake international business at or near their founding (Knight, 2015). Our finding is then in the line of Fernhaber et al. (2009) and Zahra et al. (2000), suggesting that being a young (small-sized) firm provides more benefits than disadvantages when it comes to international sales intensity and diversity, as posted by Renko et al. (2016), Manolova et al. (2010) or Autio et al. (2000). Yet, our results for age should be taken with caution because the estimate is close to non-significance in some of the models for international sales diversity, and the effect size is very low.

Most importantly, the interactive effect of BG affiliation and the firm size, firm age and home-country institutional support provide additional insights to what is mentioned above, by suggesting that the effect size is not the same for all SMEs. Overall, our results are in line with Elango's (2009) findings, as they show that BG affiliation can be considered as a relevant boundary-spanner for SMEs when facing some of the main liabilities associated with internationalizing. International BGs can help an affiliated SME cope with liabilities of foreignness and outsidership by providing access to network resources. Regarding firm size, our findings reveal a negative moderating effect on the relationship between international BG affiliation and international sales intensity and diversification. Hence smaller SMEs can obtain larger international sales from being affiliated to an international BG than larger SMEs, so they can cope with the liabilities of newness when going international. This is consistent with the notion that larger firms are more resource rich vis-à-vis smaller firms and are therefore less dependent on interorganizational relationships to facilitate growth. Regarding firm age we found a positive moderating effect on the relationship between international BG affiliation and international sales diversification, so smaller SMEs should expect to remain more concentrated in a certain number of international markets. In this case, it seems there is a minimal threshold so larger SMEs can address more international markets thanks to this affiliation because they have more resources to manage the increasing number of relationships within the network. The international BG affiliation is also a boundary-spanner for SMEs in which the home country offers a lower level of institutional support. Thus, although existing literature often highlight inter-firm networks, such as BGs, as important for firms of all sizes and ages, our findings suggest that international BG affiliation is more valuable to older and smaller firms.

Finally, our findings showed that international BG affiliation had a positive impact on international sales intensity and diversification, irrespective of the level of home country's institutional support. Thus, inter-firm networks such as BGs are not only beneficial to SMEs from home countries where institutional failures constrain the international



expansion, but also for SMEs with home institutions that facilitate internationalization. Thus, BG affiliation may enable SMEs originating from countries with high institutional support to take advantage of these institutional advantages. In contrast, BG affiliation may help SMEs from countries with weak institutional support to avoid home country institutional hazards by diversifying into foreign markets (Nuruzzaman et al., 2020). However, our findings show how the effect of BG affiliation on international sales intensity and diversification decreases with the level of institutional support, suggesting that international BG affiliation is more beneficial for SMEs located in countries with lower home institutional support. One possible explanation for this is that the lack of institutional support promotes increased use of inter-firm network relationships (Ghauri, Lutz, & Tesfom, 2003) and that BGs give firms an opportunity to operate outside established institutional support networks (Hundley & Jacobson, 1998). In contrast, SMEs in countries with high home institutional support benefit less from BG affiliation because their home environment already provides the institutional support needed for exporting, making it unnecessary to operate outside the established institutional support networks (Martin, 2014). This suggests that home country institutional support can dilute the need for BGs as a mechanism to overcome barriers to internationalization and help them engage in and expand international sales activities, by providing institutional mechanisms for helping SMEs acquire resources and develop capabilities needed for succeeding in international markets (e.g., export promotion programs). Taken together, these findings therefore highlight the context-dependent nature of the benefits of international BG affiliation.

## 7. Conclusion and implications

BGs occupy a prominent place in many emerging and developed economies across the world. However, little is known about whether being part of BG represents an advantage for SMEs seeking to internationalize, particularly in developed economies. Hence, this study contributes to our understanding of the role of BG affiliation in SME internationalization by using a multi-country data set to examine how BG affiliation influences international sales intensity and diversification, including the moderating effect of home-country institutional support, firm size and age, and the geographical dispersion of the BG network.

Our study reveals that BG affiliation positively influences the SME's intensity of international sales and its diversification. Yet this effect is contingent on the geographical dispersion of the BG's network. Affiliation with domestic BGs harms the intensity of international sales, whereas it has no significant effect on international diversification. On the other hand, affiliation with international BGs has a positive impact on both the intensity of international sales and on its diversification. However, the impact of BG affiliation is also contingent on firm size, age, and institutional support for internationalization in the home country. Smaller SMEs benefit more from being affiliated with international BGs than larger SMEs. Furthermore, the average marginal effect of international BG affiliation on international sales diversification increases with firm age. Finally, home-country institutional support negatively moderates the relationship between international BG affiliation and international sales intensity and diversification. Thus, SMEs with home countries that provide a higher level of institutional support will benefit less from being affiliated with international BGs than SMEs located in countries with lower institutional support. This highlights BGs as a suitable option for certain SMEs seeking to expand their international sales.

### 7.1. Theoretical implications

This study provides a refined understanding of the impact of BG affiliation on firm internationalization in the context of SMEs. In particular, this study portrays how the type of BG networks facilitate/constrain firm internationalization, the type of SMEs that may benefit

from BG affiliation, and the importance of context in understanding the implications of BG affiliation on firm internationalization. Thus, we hope that our study encourages scholars to continue enhancing understanding of the role of BG networks in firm internationalization, by examining other potential moderating variables and the boundary conditions for whether and when BG affiliation can enable firm internationalization breadth and depth.

While previous studies have explored the influence of entrepreneurs' characteristics on the depth and breadth of internationalization, including the speed of deepening and geographical diversification (Hsieh et al., 2019), our study offers new insights on the depth and breadth of SME internationalization by demonstrating that factors beyond entrepreneurial characteristics (i.e., BG affiliation) are also important in understanding their specific, more fine-grained effect on SME internationalization. In addition, Hsieh et al. (2019) show the importance of home country and industry context in explaining internationalization breadth and depth, which in this paper suggests that BG (whether domestic or international) are embedded within the home country or industry context. So, our paper explores a particular aspect of context related to a particular type of network manifested in BG affiliation, that has a specific impact on SME internationalization depth and breadth, measured as international sales intensity and diversification, respectively.

Our findings suggest that interfirm networks in the form of BGs are a double-edged sword as not all BGs provide equal benefits to SMEs for their internationalization. We found that the impact of BG affiliation on firm internationalization depends on the network characteristics in the form of the geographical dispersion of the BG network ties. This finding offers a different viewpoint to some earlier studies on domestic interpersonal networks (Idris & Saridakis, 2018). The explanation for this potentially lies in the notion that an international BG allows its affiliates to tap into the knowledge it holds about foreign market opportunities and provides affiliated firms with access to necessary resources for succeeding in international sales (Lamin, 2013). Hence, an international BG will act as a boundary-spanner for internationalizing SMEs to overcome the liabilities of foreignness and outsidership. In contrast, SME international sales intensity and diversification will suffer from being affiliated with domestic BGs as domestic BGs limit the opportunities of affiliated SMEs to internationalize. Thus, although BG affiliation may help SMEs seeking to increase their international sales identify new international opportunities, SMEs affiliated with domestic BGs appears to be constrained by the boundaries of their interfirm networks'.

Our study also highlights how SME age, size, and home-country institutional support moderate the relationship between BG affiliation and international sales intensity and diversification. More specifically, larger SMEs with greater availability of resources will benefit less from being affiliated with international BGs compared with smaller counterparts. As these smaller firms are typically more resource-constrained and face higher internationalization barriers (Dhanaraj & Beamish, 2003; Paul et al., 2017), they are more likely to benefit more from an international BG affiliation. In addition, SMEs in countries where the home institutions do not provide enough support are less likely to increase their international sales intensity and diversify their sales to more international markets. Thus, we contend that when SMEs depend on external resources to reach international markets and cannot acquire these resources from the home-country environment, then BG affiliation can facilitate internationalization by providing firms with an alternative mechanism for acquiring those necessary resources. However, the average marginal effect remains positive, even in countries with high levels of institutional support, such as Denmark. Therefore, our findings suggest that even if the benefits of BG affiliation decrease as the home-country constraints become smaller, they do not disappear, as suggested by others (Gaur & Kumar, 2009). In other words, SMEs seem able to derive benefits from being affiliated to international BGs irrespective of the specific properties of the context in which the BG-affiliated firms are embedded. The value of BG networks for SMEs

seeking to expand abroad does not disappear as institutional failures are successfully addressed.

## 7.2. Practical implications

The findings from this study offer several implications for practitioners. First, the study suggests that BGs can be an important source of network resources that can contribute to the internationalization of SMEs by enabling these firms to circumvent resource scarcities and minimize liabilities of outsidership. Therefore, SMEs seeking to expand their business abroad, but lacking the necessary resources for internationalization, should consider taking advantage of international BG affiliation and the network resources embedded within these interfirm networks.

Second, the study suggests that SMEs can expedite international sales by affiliating with overseas firms, while affiliating with home-country firms can restrict internationalization by failing to provide access to the needed resources or cutting the firm off from international opportunities. Thus, before affiliating with a BG to facilitate internationalization, SMEs should inquire into the firms comprising the network to ensure that the resources accessible through the interfirm network can help with internationalization.

Finally, the study demonstrates that the benefits of BG affiliation for firm internationalization are higher for smaller SMEs and/or SMEs in countries with lower institutional support. This is likely to be because these firms are more dependent on interfirm network ties to access necessary resources, including market, financial, human, and reputational resources. Thus, SMEs must recognize that BG affiliation may not be beneficial to all and should first establish whether the necessary resources are already available through institutional support or within the firm before allocating time and monetary resources to foster relationships in BG networks.

## 7.3. Limitations and future research avenues

We are aware that our research, like most studies, has its limitations. Although the empirical analysis presented in this paper is based on 14,513 SMEs, it is limited by the nature of the data set used. This data set distinguished only between domestic and international BGs, and so allowed empirical analysis of how affiliation with these two types of BG affects firm internationalization. Thus, we have concluded that BG affiliation is more likely to contribute to higher levels of internationalization when firms are affiliated with international BGs compared with domestic BGs. However, we encourage future research to continue exploring how BG network characteristics, including the international experience of the firms affiliated with the BG, influence the affiliated firms' ability to identify and exploit opportunities in foreign markets. Such studies will increase our understanding of the circumstances under which BGs are more likely to contribute to higher levels of internationalization.

Additionally, because of the cross-sectional nature of the survey, the data only provides us with a snapshot of the BGs. Because of this, it is impossible to consider the impact of the evolution and network development of the BGs. Consequently, we are unable to distinguish between born global BGs, international BGs that once were domestic, and domestic BGs that once were international. Thus, we are unable to determine whether recently formed international BGs, that were previously purely domestic can provide the same benefits to SMEs as born global BGs. However, networks are not static, but change, develop, and evolve over time. We therefore encourage future research to explore further how the development and evolution of BG networks affects the value of affiliation to SMEs seeking to expand abroad.

Furthermore, our findings confirm that the effect of BG affiliation on international sales intensity and diversification depends on the type of actors in a BG network. Consequently, BG affiliation can be a double-edged sword that can have both favorable and unfavorable

consequences for firms seeking to expand abroad. This underlines the importance of BG affiliate selection. As BGs are fundamentally made up of different actors, future research could examine in greater detail how firms decide which BG networks to join and the type of firms to embed in the network. Such decisions shape the impact of BG affiliation on firm internationalization. These considerations can help firms identify promising BG networks and strategically select BG affiliates that can help them achieve their international ambitions.

Finally, this study only considers the impact of BG affiliation on the international sales intensity and diversification without paying attention to the ability of firms to identify and exploit potential network resources. Thus, while BG affiliation can play a crucial role in forming network resources, which can facilitate the internationalization of affiliated firms, this is likely to materialize only when firms possess the necessary capabilities to identify and exploit those network resources (Torkkeli, Puumalainen, Saarenketo, & Kuivalainen, 2012). For example, the ability of firms to develop, manage, and exploit networks depends on their competencies in managing networks and executing network management tasks (Ritter, 1999). Hence, future research is encouraged to explore the role of the individual firm's network competencies in explaining the consequences of BG affiliation on the firm's international sales. In addition, the network competencies of firms are likely to depend on the competencies and cognitive characteristics of the individual managers and entrepreneurs (Faroque, Morrish, Kuivalainen, Sundqvist, & Torkkeli, 2021). Thus, more research is needed to explore the microfoundations of network competencies and how these affect the impact of BG affiliation on firm internationalization.

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